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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,400	07/30/2003	Minas Tanielian	7784-000621	9004

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EXAMINER
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HANDY, DWAYNE K

ART UNIT	PAPER NUMBER
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1797

MAIL DATE	DELIVERY MODE
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12/28/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/630,400

Applicant(s)

TANIELIAN, MINAS

Examiner

Dwayne K. Handy

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 43-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 60-69 is/are allowed.
- 6) ☒ Claim(s) 43-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings were received on 10/12/07. The drawings are approved.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 43-48, 51 and 53-57 are rejected under 35 U.S.C. 102(b) as being anticipated by Megerle (6,391,624). This rejection was made in Paragraph 3 of the previous Office Action (mailed 7/12/07). It remains in effect. Please see Response to Arguments below.

### ***Inventorship***

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 52, 58 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Megerle (6,391,624) in view of Zarling (5,674,698). Megerle teaches every element of claims 52, 58 and 59 except for the detection of the bound probe by optical excitation and detection. Zarling teaches identification of analytes by labeling the analyte with an up-converting label. The label is then read by optical means. The embodiment of the device most relevant to the instant claims is shown in Figures 31A-31B and described in column 41, lines 1- 60. It includes a diode laser array over a probe array that is attached to the surface of a photodiode array. The laser excites the

probe/analyte compound and the resulting emitted energy is detected by the diode array. Zarling teaches that by combining different probe-label combinations, it is possible to perform multiple assays simultaneously (column 7, lines 38-64). It would have been obvious to combine the optical components from Zarling with the device of Megerle. Megerle teaches the detection of bound materials by electrical means. The use of the optical means from Zarling would allow for multiple simultaneous detection assays as suggested by Zarling.

7. Claims 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Megerle (6,391,624) in view of Coyle et al. (7,062,982). This rejection was made in the previous Office Action and remains in effect.

#### ***Response to Arguments***

8. Applicant's arguments filed 10/12/07 have been fully considered. Applicant has argued that Megerle does not teach "exciting said tag to force said tag to form an emission energy and detecting the emission energy from the excited tag" (Applicant's arguments, page 18 line 17 – page 19, line 3). This is persuasive. The Examiner agrees with Applicant that the excitation, emission and detection steps are not taught by Megerle. The 102 rejection of claims 52, 58 and 59 has been withdrawn. A new 103 rejection for these claims has been provided in Paragraph 6 above.

9. Applicant has also argued that Megerle does not teach forcing the formation of the collection of at least one of an interacted tag and an uninteracted tag (Applicant's

arguments, 10/12/07, page 17, lines 13-21). The Examiner respectfully disagrees. The claim reads "at least one of...." The Examiner submits that contacting a sample with the fixed probe of Megerle to result in a group of sample particles fixed to the probes (and chip) is "forcing the formation of a collection of interacted tags" with the collection of interacted tags being the sample-probe complex. Any DNA probes that do not collect a sample particle would be an un-interacted tag. Therefore, simply exposing the sample to the chip of Megerle would produce a collection of interacted tags (Probe + bound sample) and a collection of uninteracted tags (Probe only).

10. Applicant has also argued that Megerle does not teach "separating said interacted tag from said uninteracted tag using a mass differential.... Or dielectric constant" (Applicant's Arguments, page 18, lines 6-16). The Examiner agrees with Applicant that Megerle does not teach separation by dielectric constant. The Examiner disagrees with Applicant on separation by mass differential, however. Megerle teaches the use of a cyclonic separator in column 6, lines 1-15). A cyclone would produce separation by mass differential.

***Allowable Subject Matter***

11. Claims 60-69 are allowed. Claims 60 and 69 recite methods of determining a selected agent in an atmospheric sample that are not taught or suggested by the cited prior art.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwayne K. Handy whose telephone number is (571)-272-1259. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



DKH  
December 21, 2007

**LYLE A. ALEXANDER  
PRIMARY EXAMINER**